(***Bulletin***—*continued from page 41)*

more information, contact AIC, 1717 K Street, NW, Suite 301, Washington, DC 20006; Phone: 202-452-9545; Fax: 202-452-9328.

The University of Hawaii at Manoa School of Architecture and the East-West Center invite paper proposals for the *First International Symposium on Asia Pacific Architecture: The East-West Encounter*, to be held in Honolulu, HI, March 22-24, 1995. The symposium will address topics on the culture and architecture of the Asia Pacific region, focusing on sociological, political, anthropological concerns, business practice issues, history and theory, traditional architectural responses to regional climatic factors, and architectural and planning case studies from Hawaii and elsewhere in the Asia Pacific region. Papers should address the encounter between western and eastern architectural traditions in Asia and/or the Pacific Basin and may be in the following areas: architectural history and criticism, climatic response and architectural forms, vernacular architecture, contemporary architectural practice, and issues in urban planning. Submit a 250-word abstract of the proposed topic by September 1, 1994, to the Symposium Coordinator, School of Architecture, University of Hawaii at Manoa, Honolulu, HI 96822. For more information, call 808-956-7225.

A joint meeting of the **Southeastern Archaeological Conference** and the Midwest Archaeological Conference will be held November 9-12, 1994, in Lexington, KY. The deadline for abstracts is August 1, 1994. Contact SEAC/MAC Committee, 101 American Bldg., University of Kentucky, Lexington, KY 40506-0100; Phone: 606-257-1944. Fax: 606-323-1968.

Sculptural Monuments Workshop

The NPS Mid-Atlantic Regional Office (MARO) and the National Institute for the Conservation of Cultural Property (NIC) are conducting a series of 3-day workshops on the care of monuments. Lectures, on-site tours, and instructional videotapes will give participants a solid grounding in the practical and theoretical aspects of the long-term care of public monuments and outdoor sculpture. Eight workshops will be held at locations throughout the U.S. beginning in October 1994, and continuing through November 1995. The first workshop will take place October 20-22, 1994, in Savannah, GA. Other workshop sites include San Diego, Portland (Maine and Oregon), Minneapolis, Oklahoma City, Philadelphia, and Kansas City (Missouri). For additional information, contact Dennis Montagna, NPS-MARO, at 215-597-5824.

Database Workshops

The History Computerization Project now offers free workshops and a printed tutorial on the use of computer database management for historical research, writing, and cataloging. Those unable to attend the workshops can still obtain the 80-page workshop tutorial by mail. The workshops and tutorial give organizations and researchers a chance to see how easy it can be to build an historical database, at no cost or obligation. The project, sponsored by the Regional History Center of the University of Southern California and the Los Angeles City Historical Society, is building a Regional History Information Network through which researchers and repositories can exchange information. The Los Angeles Bibliography Project has created a database of source materials and a directory of historical repositories. Both projects employ the History Database program, running on IBM PC compatible computers. The computer classroom includes 10 IBM PCs connected to a shared database. The course textbook, *Database Design: Applications of Library Cataloging Techniques*, by David L. Clark, is published by the TAB division of McGraw-Hill. For a current workshop schedule and a free copy of the tutorial contact: History Computerization Project, 24851 Piuma Road, Malibu, CA 90265, or phone 818-HISTORY, or 818-591-9371.

MAAM Fall Meeting

The Mid-Atlantic Association of Museums (MAAM) will hold its annual meeting November 13-16, 1994, in Annapolis, MD and Washington, DC. Included are two sessions on architectural elements titled, "Rooms, Roofs, and Railings: The Management of Architectural Collections." For registration information, contact MAAM, P.O. Box 817, Newark, DE 19715-0817; 302-731-1424.

Courses

CRATerre-EAG, the International Centre for Earth Construction, offers a regular training program on earth construction and earthen architecture. The courses are taught by a multidisciplinary team of specialists from CRATerre-EAG and the School of Architecture of Grenoble. The next course on *The Technology of Compressed Earth Blocks* will be offered November 25, 1994. For more information on these courses, as well as others available in 1995, write to: CRATerre-EAG, Mrs. Marina Trappeniers, 60 avenue de Constantine—BP 2636, 38036 Grenoble Cedex 2, France.

Information Management

Pro-Cite Comes to NPS

Diane Mallos Woods

It is now easier than ever before to put your bibliographic collections on computer. The reason is Pro-Cite, the bibliographic software package recommended by the National Park Service Library Program. Pro-Cite, produced by Personal Bibliographic Software, Inc. (PBS) of Ann Arbor, MI, packs a lot of power for processing up to 20 different types of "library" or bibliographic materials, all in one database or in many separate databases—the choice is yours.

Based on the MARC Format (Machine Readable Cataloging format), a national library data standard, and now an NPS standard, (see NPS Special Directive 94-1), Pro-Cite provides 20 pre-designed forms for easy data entry of a wide range of media, including books, journals, reports, newspapers, dissertations, trade catalogs, letters, manuscripts, conference proceedings, maps, music scores, sound recordings, motion pictures, audiovisual materials, video recordings, art work, computer programs, and data files at the item level. It is also possible to customize forms for local use.

Pro-Cite distribution and implementation is a major thrust of the NPS Library Program in this and future years. Pro-Cite will be the means of putting volumes of NPS bibliographic data into categorized electronic form. Once this is accomplished, the options for sharing bibliographic data within and outside the NPS will be dramatically increased. To assist park libraries, the NPS Washington Office Information and Telecommunications Division (ITD), home of the NPS Library Program, purchased 100 copies of Pro-Cite this year and will add more next year. The Inventory and Monitoring Program also purchased 100 copies for Natural Resources use at parks. The two programs have coordinated their Pro-Cite distribution efforts.

The Information and Telecommunications Division plans to implement Internet connections throughout the NPS during the next two years (see following Report on Internet p. 43). When this happens, having data accessible in electronic form will enable NPS libraries and other NPS bibliographic projects, such as the Cultural Resources Management Bibliography, the Natural Resources Bibliography, the Denver Service Center's Technical Information Center, the National Archeological Database (all of which are working with Pro-Cite), and

others to share bibliographic data and provide widespread access to related information.

All Pro-Cite packages distributed by the Library Program will include some extras. These extras include an NPS-specific instruction manual entitled, *Pro-Cite in the National Park Service,* a label-producing program for book and/or folder labels, a canned authority list (pick list) of NPS region and park alphacodes, and an opportunity to participate in a Pro-Cite users' group on cc:Mail. In addition, those who have already entered data into the "NPS Library System," a dBase III+ Clipper program previously distributed by Harpers Ferry Center, will be able to obtain a conversion program to bring their data into Pro-Cite without re-keying entire records. These in-house products and services, in addition to the manufacturer's own excellent written documentation and telephone help service, should cover most of the support needs for Pro-Cite. Those who made this year's Pro-Cite application deadline will receive a copy this summer.

The NPS Library Program's Pro-Cite distribution and implementation process is being planned and carried out by a work group composed of members of the Library Advisory Committee and others. The group is under the direction of the Chief Librarian, Diane Mallos Woods. The work group consists of four teams, each responsible for one of the following: distribution, user aids, conversion program development and labels program development—all the tasks needed to implement Pro-Cite at libraries throughout NPS.

If you have any questions, contact your regional librarian or Diane Mallos Woods, Chief Librarian, via cc:mail (preferred) or at 202-343-4430.

Special Report

Telecommunications Networks and Internet in the NPS

Betsy Chittenden

The following report, written in a Q&A format, was prepared for all National Park Service employees. It is printed here for the benefit of *CRM* readers who might not otherwise receive this information.

Q: What telecommunications network? Do we have one?

A: Yes, and it is undergoing a major expansion and upgrade. Over the last few years, NPS has completed the ParkNet project, which set up new communications services (cc:Mail and videoconferencing) and standardized certain communications that are used for administrative systems, such as personnel and finance. While these are great improvements over what was available (or not available) previously, in many locations communications are still very slow and unreliable. Internet and other information highway connections are not currently available. The system as a whole will not support the rapidly increasing communications needs of the Service and the coming requirements of electronic government, such as electronic funds transfer. To meet our new and growing communications needs, we are now in the process of implementing ParkNet II. A major part of the ParkNet II project is to switch most of our communications to a new, Departmentwide network called DOINET. DOINET will be the Department's high-speed backbone communications network for administrative systems and cc:Mail. ParkNet II will also bring an Internet connection to all parks, allowing parks access to all Internet services.

Q: How will communications be different than they are now?

A: For some parks, ParkNet II will provide a "dedicated" connection to the network. This means that the park will be directly wired into ParkNet/DOINET, eliminating the need for modems and dialing. For those parks that cannot be wired, ParkNet II will provide a piece of equipment called a "dial-up router", which is combination high-speed modem and computer. This will be used to dial into a single location, rather than separate dialing locations for the different systems as is done now. The result will be a dramatic increase in the speed and ease of cc:Mail and administrative system connections in most locations. For the very remote, "communications-challenged" parks, ParkNet II will use satellite technology to provide adequate service.

Q: What about Internet? I hear a lot about it, but I don't understand why I need it.

A: Internet is the world-wide communications "highway" for academic institutions, government, business, and private citizens. Increasingly, it is the world's library: most university library catalogs, and many databases and documents are available on Internet, some nowhere else. In NPS, scientists and resource managers will need Internet to do research and communicate with peers. Data exchange with the National Biological Survey will take place over Internet. The GIS community will use Internet to exchange and make available the very large spatial data sets that they use. As the NPS builds partnership relationships with educators, the environmental community, and others, we will be able to communicate using Internet. The NPS will also be able to use Internet to make our information available to a wider audience. The NPS Library Program will play a key role as the NPS develops the capability to reach out via Internet, and to provide NPS information to students, visitors, and the general public.

Q: What will all this cost us?

A: The Service must make an initial investment in specialized computers and other equipment, and some software that allows communications between our DOS personal computers and the network. The individual cost per park will vary between about $4,000 to about $30,000, depending on the size of the park and the type of connection to be installed. The total cost of the initial equipment investment Servicewide is estimated to be around $4,000,000. There is $1,000,000 in the FY95 budget to begin purchasing equipment, and we are searching for more funds. Some of the circuits used will be FTS2000 telephone lines, and some will be DOINET trunk lines. The cost of the DOINET circuits are being spread among all DOI bureaus: our share is about equal to the costs of our few existing dedicated circuits that DOINET will replace, so that we will have vastly increased service for the same money. Overall, the Service will save money through ParkNet II almost immediately by increasing the speed of communications, and sharing a large portion of the costs with other DOI bureaus. Interestingly enough, the Department has decreed that while use of DOINET is optional, paying for it is mandatory.

Q: I don't know much about computers, and even less about telecommunications, and it sounds pretty technical. Who's going to run this for the NPS, particularly in light of the streamlining and reengineering going on?

A: Short on FTEs[1] but not on enthusiasm, ParkNet II is being done by a team of people across the Service. The project is spearheaded by the WASO Information and Telecommunications Division, but much of the legwork is being done by the information management personnel in the regions and service centers. Eight communications FTEs have been requested in the FY95 budget, to begin to meet the need for telecommunications specialists in the field. If approved by Congress, these FTEs will be placed around the Service in strategic parks to act as communications "circuit riders" to provide on the ground technical assistance to parks. One great advantage to modern communications equipment is that problems can be diagnosed, and often fixed, "remotely," by experts who can be located across the country. This allows a team approach to managing the network, using geographically dispersed Washington Office (WASO), region, and park personnel. Even so, adequate technical support remains a large issue at the levels we have now. Additional technical support staff and strategies will eventually be required, particularly as more locations get local area networks.

*(**Information**—continued on page 44)*

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Q: What about security? I read in the papers how hackers are always breaking into computers over Internet. Will my computers and data be safe?

A: Security is an extremely important issue on any communications network. There are a number of security measures already in place on DOINET and on the various computers that are hooked to it, and we are in the midst of a Servicewide study of telecommunications security being conducted with the assistance of the National Security Agency. For the moment, the NPS Internet connection is one-way only, going outbound: in other words, NPS employees can go out over the Internet, but outsiders cannot come into any NPS computers. By the way, security of voice telephones is also a major issue: there was a major "break-in" by a hacker to a park telephone system last year, where $40,000 worth of long distance calls were illegally routed through—and billed to—the park. And yes, we were stuck with the bill.

Q: What training will be required, and for whom?

A: Since most of the technical support will be handled either by the "circuit riders" or remotely by the regional and WASO experts, only minimal technical training needs are anticipated at the park and office level. However, we do anticipate a need for assistance and training in using the Internet and the information highway, which we anticipate meeting in three ways. First, we will be working with the Employee Development Division to provide training in how to "surf" the Internet. Secondly, an Internet menu will be developed for NPS employees, to find and connect to information available over Internet. Finally, the NPS Library Program will assist park and regional librarians and others across the Service in developing Internet research expertise.

Q: What's involved in making NPS information available to the public, and other NPS employees, over Internet?

A: The simplest form of making information available involves putting information on computers, called "file servers" devoted to that purpose, and making them accessible via Internet. However, it is helpful to provide some organized access to the information by means of special software, called "client server software", that provides the menu mentioned above. (Some of the common ones are "Mosaic", "Gopher", and "WAIS"—all available for free on the Internet.) We anticipate that both NPS employees and the public will have an Internet menu of NPS information available. When a user makes a menu choice, he or she is automatically routed to the server where the information lies. What happens at that point, what the user is able to do—whether search or manipulate a database, or simply download a database or an electronic copy of document—is determined by the owner of the information on that file server. Where the file servers are actually physically located is inconsequential—they can be centrally located or run by any park or program office willing to maintain them. Several offices around the Service are in various stages of planning to set up file servers. The Denver Service Center library is currently experimenting with client server software and prototype access menus.

Q: Do we have any Internet access at all right now?

A: Yes. Last fall, the NPS obtained an Internet license and opened a gateway to Internet through the Bureau of Reclamation and a regional Internet provider called "Colorado Supernet" in Denver. As parks and regions go onto DOINET, they have this Internet access, so NPS offices in Denver and Alaska now have direct access to Internet. In addition, anyone with access to cc:Mail can send and receive mail on the Internet now through a special cc:Mail gateway : contact your local cc:Mail Hub Coordinator for instructions (listed in cc:Mail by region, i.e. "RMRO Hub Coordinator"). By the way, the NPS addresses on Internet will all end in "@nps.gov"—i.e. roger_kennedy@nps.gov—giving the NPS a uniform Internet "identity."

Q: What is the status of the ParkNet II project? Is it real, or is it waiting for funds in some undetermined budget year?

A: The NPS began implementing ParkNet II in earnest last fall, after the announcement of the formation of DOINET. To date, the Denver and Alaska regional offices have connected with DOINET using their own funds, and are using it for all their cc:Mail and administrative systems traffic. Three other regional offices (Seattle, Atlanta, and San Francisco) and some WASO offices are expected to go on the network within the next six months, again using their own funds. Also last fall, 20 "Netblazer" modems were purchased by the Inventory and Monitoring program and are being placed in selected parks and offices around the Service to test non-dedicated, dial-in access to the network. Park-level analysis and costing is now underway, with the goal of being ready to spend the $1,000,000 earmarked for equipment purchase in the FY95 budget, and any other funds that might surface, the moment that they become available. The question is not whether or not ParkNet II will proceed, but only how fast. With the increasing recognition Servicewide of the importance of communications, we are hopeful that resources will be made available and that the project will move quickly.

Q: How does ParkNet II relate to the reengineering and reorganization of the Service going on right now?

A: The modern communications infrastructure provided by ParkNet II will be absolutely essential in a streamlined NPS, particularly as the "electronic government" becomes a reality. This fact has been recognized in numerous discussions and papers, including the Director's White Paper, the Vail Agenda, the National Performance Review reports, and others. By their nature, communications infrastructures are flexible and adaptable, largely independent of organizational changes. Communications nodes are placed as much with regards to technical, cost, support, and line-sharing considerations as to organizational structure. The ParkNet II communications infrastructure is being deliberately designed to be as flexible and organizationally independent as possible, since it is during times of organizational change that a reliable communications infrastructure is most needed.

Q: What about the future? Does this come to my desktop?

A: The goal of ParkNet II is to upgrade communications to the park level, but to bring ultra-modern communications to each employee requires local area networks, or LANs, in every park and office. Many parks already have LANs, and for these locations it is easier to bring full communications services to each employee. But for those who do not, the electronic highway for the moment will reside on only a few computers in the park. To achieve the goal of the electronic highway access for every NPS employee will require a major effort and commensurate funds and staffing. To begin this process, the Deputy Director has authorized the creation of a Servicewide Telecommunications Infrastructure Improvement Project Task Force, composed primarily of park superintendents. This task force, which will meet initially this fall, is being formed to oversee the development of a major communications budget initiative, beginning with the FY 1997 budget year, to provide desktop access and quite probably other new communications services.

Note

[1] FTE, or full-time equivalent, is the term used to refer to the position or employment "slot" assigned to a given organization for staffing purposes.

Betsy Chittenden is a management analyst in the Information & Telecommunications Division of the National Park Service.